

the **CLEATFORMER**®

**MODEL
C-8600-SERIES**

**INSTRUCTIONS
and
PARTS DIAGRAMS**



THE LOCKFORMER COMPANY

711 W. OGDEN AVENUE • LISLE, ILLINOIS 60532

ELECTRICALS:

1-1/2" HP 110/220 volt single phase motor and control. Standard machine wired for 110 volt unless otherwise indicated. Three phase electrics also available upon request.

MACHINE SPECIFICATIONS:

"S" CLEAT:

Capacity: 22 gauge galvanize or lighter
Stock Width: 3-5/8" + 000-1/32

DRIVE CLEAT:

Capacity: 22 gauge galvanize or lighter
Stock Width: 2-1/8" + 000-1/32

OPERATIONS:

Start machine and place properly sheared material between gauge bars and feed material into the rolls.

Check end results and make changes accordingly.

ADJUSTMENTS:

Should the machine labor under load, the hold down studs are set too tight. To readjust, tighten the four studs that pass through the machine plates and then loosen approximately one quarter turn (90°). Should the machine continue to labor, loosen the two studs on the lead end of the machine to three-eighths (135°), or one-half turn (180°) loose. Upward bow can be adjusted by lowering the exit adjusting screw located on the exit adjustment gauge assembly. Downward bow can be compensated by adjusting the hold down studs located at the exit end of the machine. Side bow is caused by an unbalanced stud adjustment.

LUBRICATION:

Lubrication fittings for the high speed shafts are located under the stand auxiliary roller case. The high speed bearings should be lubricated after every eight hours of operation (recommended lubricant - Standard Oil Viscous #3, or equivalent.)

Roll stations #4 and #5 (part #C-8604 and #C-8605) are supplied with one polished angle surface to eliminate friction and allow the material to flow smoothly during the forming sequence. The rolls should be lubricated periodically with an application of #20 or #30 SAE lubricating oil to insure a smooth sliding surface.

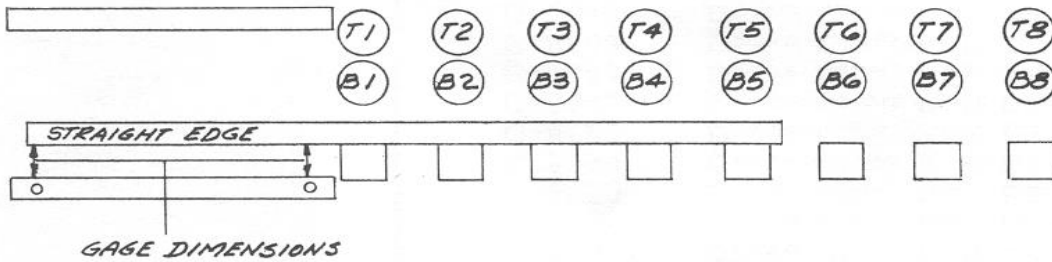
NOTE: If machine is to be used or stored out-of-doors, an oil or grease film will prevent rusting of surfaces.

INSTRUCTIONS FOR AUXILIARY ROLLS:

Machine auxiliary shafts are designed to accommodate various auxiliary roll sets listed below. To install these rolls, proceed as follows:

1. Remove machine cover.
2. Remove rear section of table top side plate and table support bar, if on machine.
3. If auxiliary rolls are now on machine, remove retaining ring clips with pliers provided. Remove all parts not pertaining to the set to be used.
4. If there are no rolls on the machine, place retaining rings on the back slots of the shafts.
5. Place Woodruff keys on shafts.
6. Select the first pair of rolls which are marked "T-1" and "B-1" and place them on the shafts at the entrance of the machine (Feed Side). Place the "T-1" roll on the upper shaft and "B-1" on the lower. Repeat procedure with roll stations #2, #3 and #4, etc. until all rolls have been mounted. All rolls marked "T" should be mounted on the top shafts and "B" rolls on the bottom shafts in numerical order. NUMBER SIDE OF ROLLS MUST FACE OUTWARDS.
7. After rolls are installed, place retaining rings in appropriate ring slot.
8. Mount entrance and exit gauge bars to stand, using slotted holes provided in stand table top and set entrance gauge by placing a straight edge along the outer edge of the auxiliary rolls; measure the required amounts in from this straight edge to the extreme ends of the entrance gauge bar.

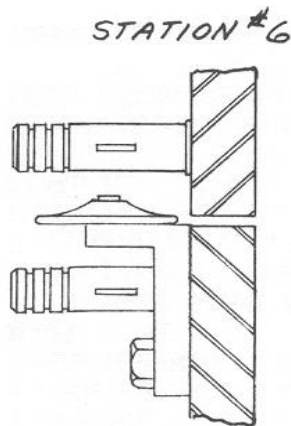
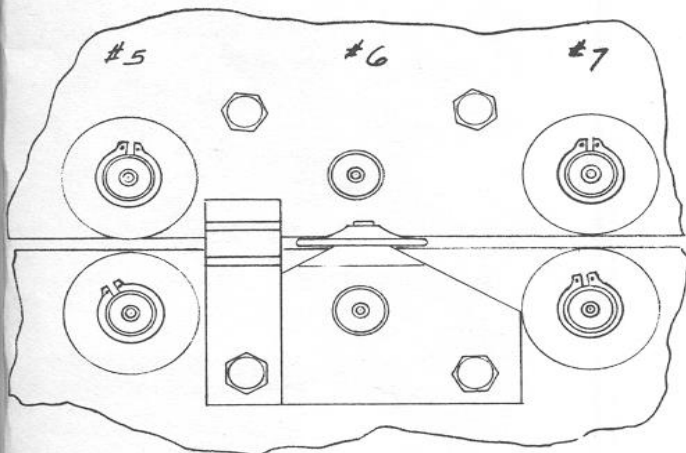
See Sketch #1 - when using drive cleat rolls, mount second bar after gauge setting has made. See schedule below for various auxiliary sets.



Auxiliary Roll Gauge Settings:

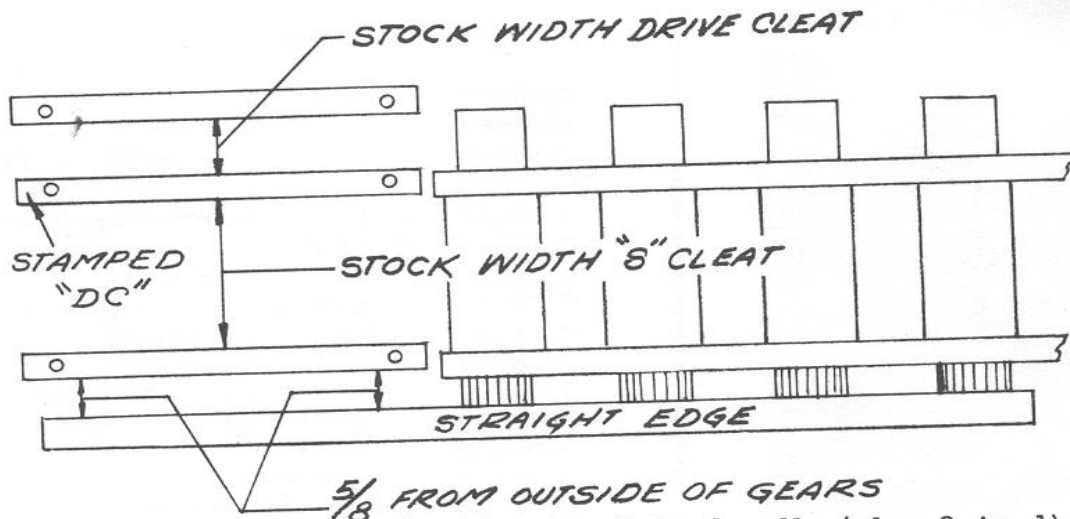
- A. Type "S" double seam (22 gauge and lighter) uses approximately 1" material.
Gauge Setting 1-1/8"
- B. 5/16" Auxiliary Pittsburgh (22 gauge and lighter) uses approximately 1" material.
Gauge Setting . . . 1-11/16" / - 1-3/4
As light taper in gauge setting may be req.

NOTE: To install auxiliary opening roll holder, remove rolls from the #6 roll station and bolts that straddle the bottom 6 roll shaft (See sketch #2 and #3). Place opening roll holder and slide on machine and fasten with the two 1/2-13 NC x 2" HHCS provided.



- C. Drive Cleat: (22 gauge and lighter) 2-1/8" material.
Gauge Setting 2-1/8"

NOTE: Use gauge bar stamped DC (.917 wide) as center bar for "S" cleat and drive cleat. Set outside gauge bar to width of material being used (See drawing #4).



D. Combination 3-in-1 rolls (also 2-in-1) uses approximately 1-3/4" on "T" section, 1-1/8" on standing seam and 1/2" on right angle flange.

Gauge Settings - 3-in-1 gauge bar:

Top Step "T" section	2-1/16"
Middle Step standing seam	1-1/2"
Bottom Step ring angle flange	15/16"

Gauge Setting - Combination 2-in-1:

Top Step "T" section	2-1/16"
Bottom Step standing seam	1-1/2"

NOTE: The combination gauge acts as a center guide for the "S" cleat and combination 3-in-1 rolls.

When the first setting is made, the other two will automatically be correct. The other two shapes can be made by placing material to the proper gauge step. The exit angle iron gauge has an adjustable bar that can be lowered to exert pressure on the material as it emerges from the rolls - thereby straightening the finished section.

CAUTION: WHEN ADJUSTING THE EXIT GAUGE FOR THE 3-IN-1 COMBINATION, BE SURE TO SET IT TO THE "T" SECTION OR DAMAGE WILL RESULT BY MATERIAL INTERFERENCE WITH THE GAUGE BAR.

- When changing rolls, loosen the exit gauge and move it to the extreme ends of the table slots away from where the material will pass. Run a test piece of material through the rolls and stop the machine as the lead

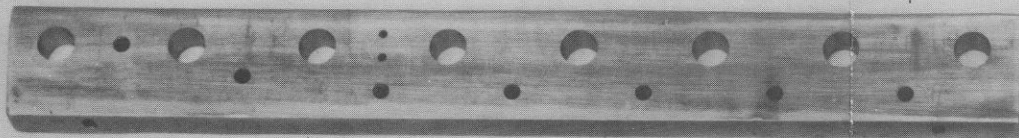
edge of the formed material reaches the end of the exit table. Set the exit gauge to the formed material -- the gauge should be flush with, but not bearing against, the material unless side pressure is required for straightening. Adjustment of the pressure on the 3/8" studs that pass through the plates will effect the shape and the tendency of the material to hold to the entrance gauge. It is important that, when changing rolls, all parts pertaining to each set be removed from the machine and all parts for the set to be mounted be included on assembly.

10. Replace top cover and stand back plate & sheet support rail.
11. Place material against gauge bar and feed into machine.

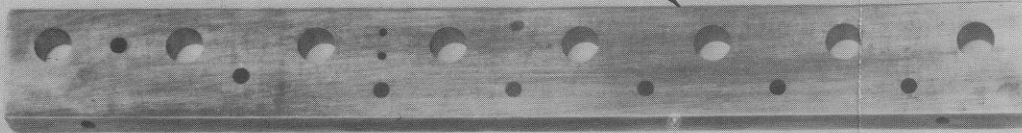
NOTE: When installing retaining rings, make sure the sharp-flush side of ring is against the shoulder taking force of thrust. (See drawing.)

EXAMPLE: For auxiliary rolls, the inner ring adjacent to plate should have sharp edge to plate. The outer ring would have sharp surface to outside of shaft.

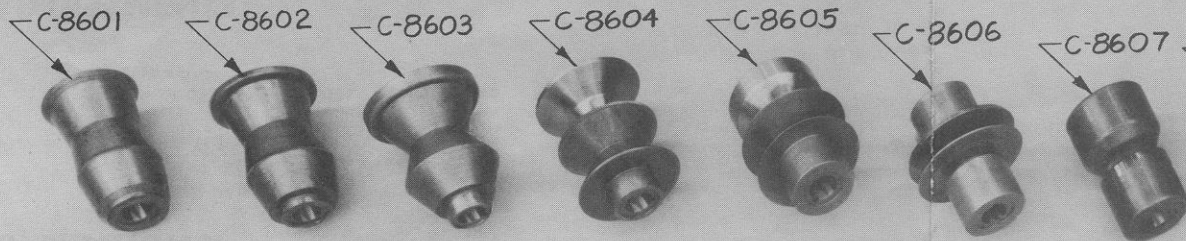
NOTE: Roll coding is such that on similar rolls the numbers will designate more than one station. EXAMPLE: Combination 3-in-1 rolls have two rolls stamped LTC2-3-B7-8-9. These rolls are to be placed on the bottom 7 & 8 shaft. The #9 represents the ninth station on the Super Speed Cleatformer, therefore the number 9 station is not represented on this machine.



C-8600 AT



C-8600 GT



C-8601

C-8602

C-8603

C-8604

C-8605

C-8606

C-8607

C-8613



C-8614



C-8615



C-8616

C-8617



C-8619



C-8618

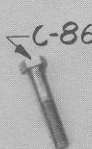
C-8621



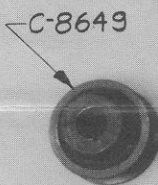
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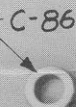
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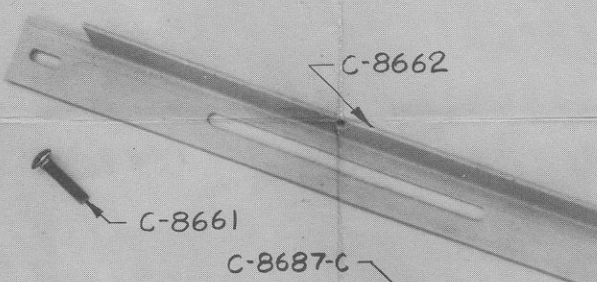
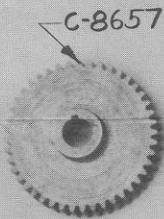
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C-8655



C-8657

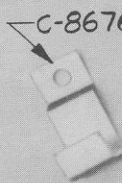


C-8662

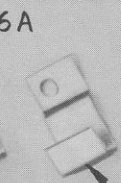
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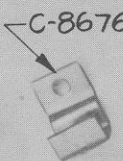
C-8676A



C-8676B



C-8676-C



C-8678



C-8679



C-8681



C-8682



C-8687F



C-8687-C

C-8687-A



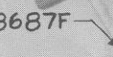
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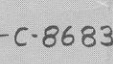
C-8687-A



C-8687-C



C-8687-F

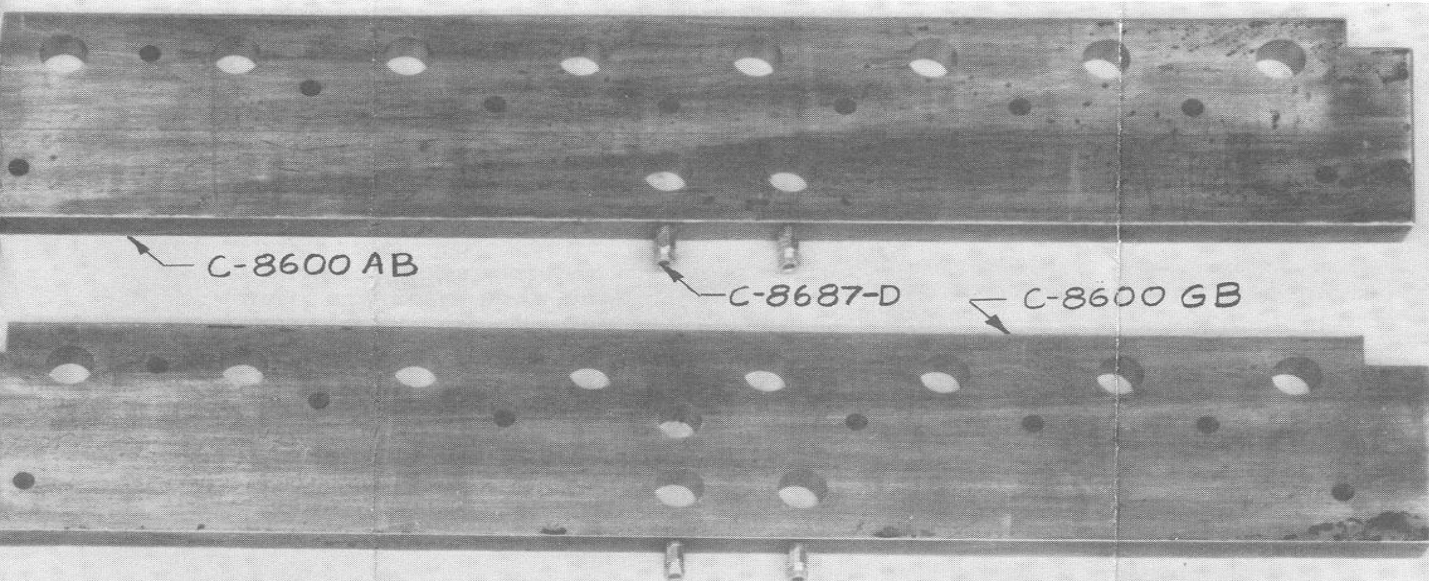


C-8687-G



C-8687-H

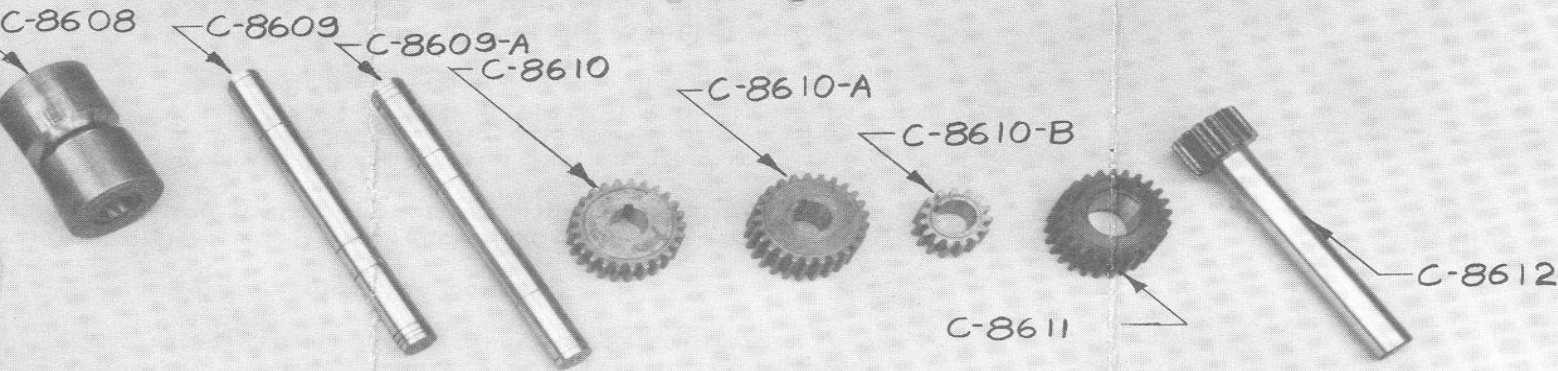




C-8600 AB

C-8687-D

C-8600 GB



C-8608

C-8609

C-8609-A

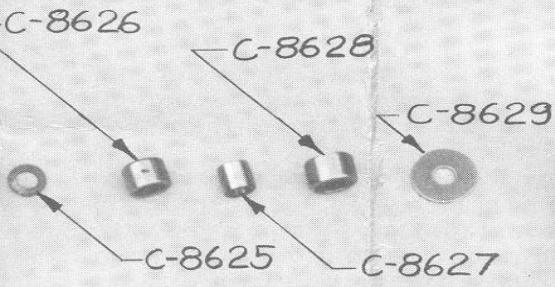
C-8610

C-8610-A

C-8610-B

C-8611

C-8612



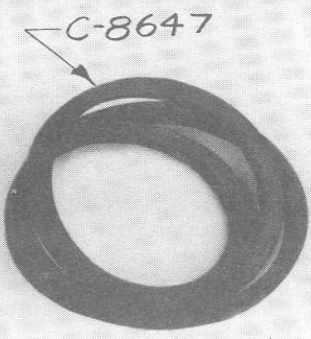
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C-8628

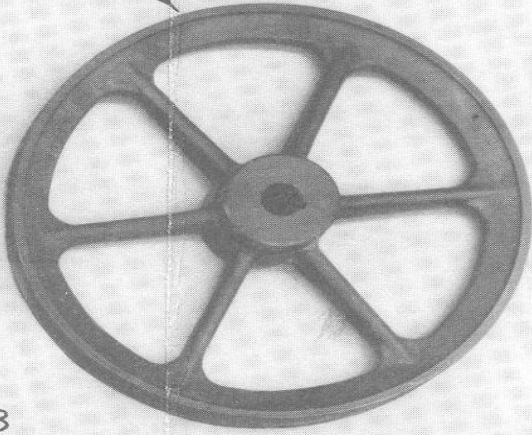
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C-8625

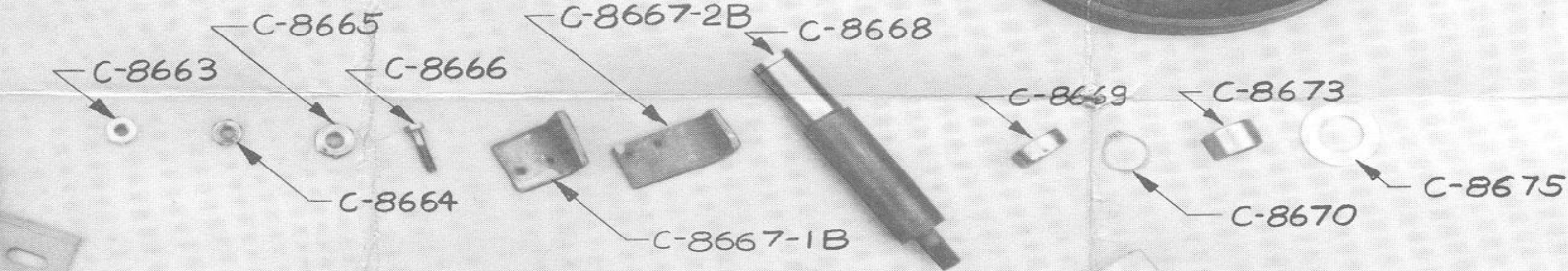
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C-8647



C-8648



C-8663

C-8665

C-8666

C-8664

C-8667-2B

C-8668

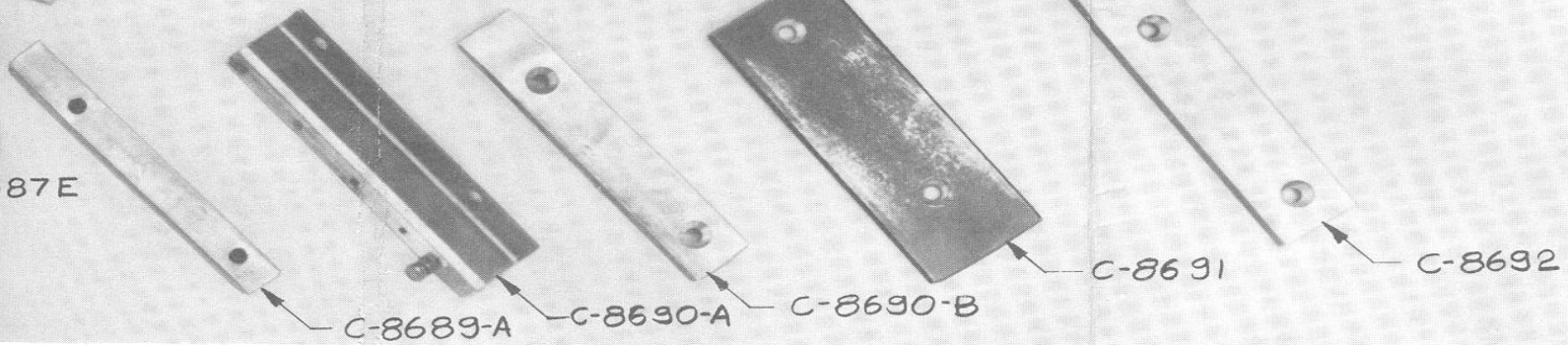
C-8667-1B

C-8669

C-8673

C-8670

C-8675



87E

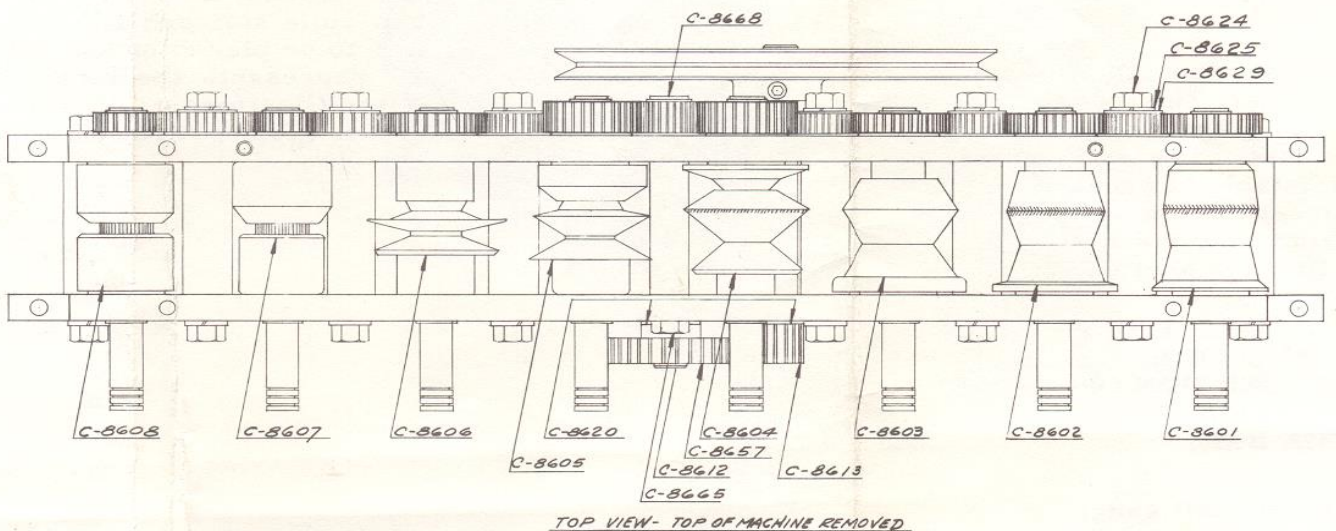
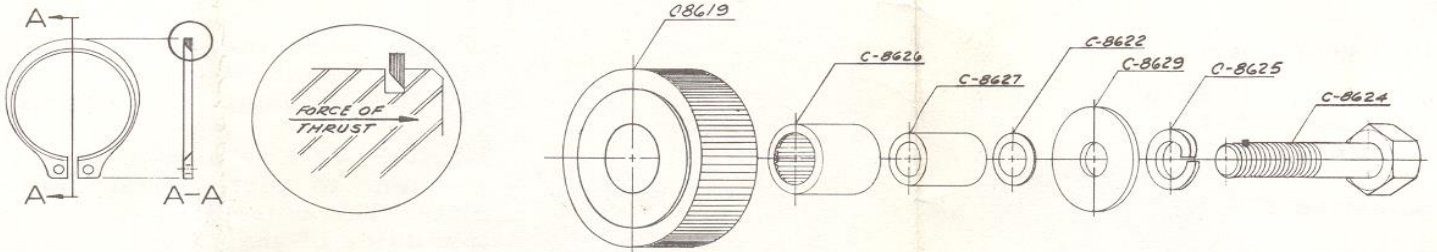
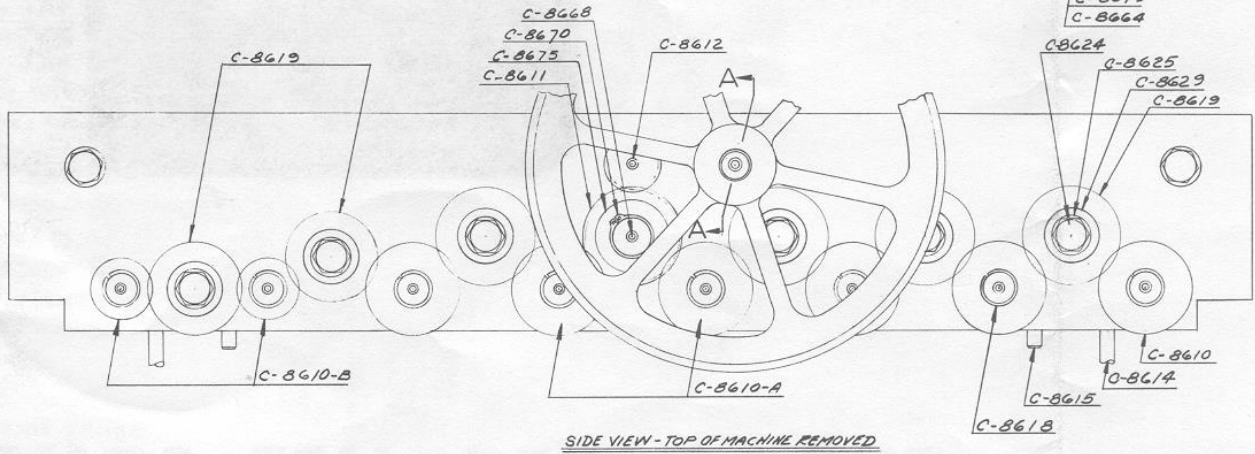
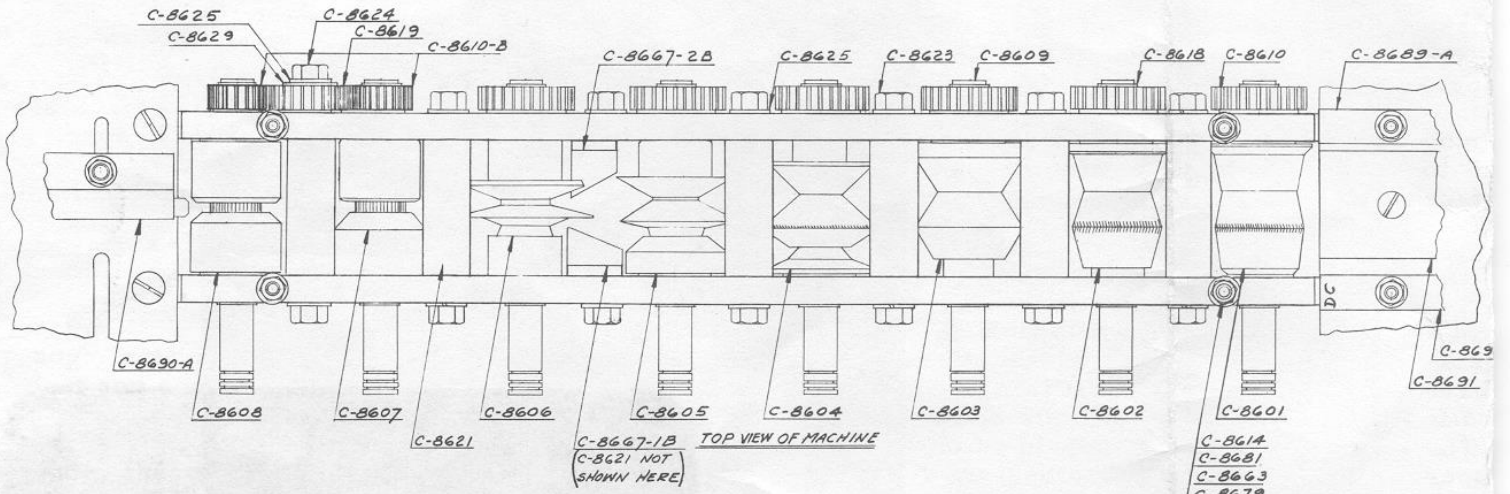
C-8689-A

C-8690-A

C-8690-B

C-8691

C-8692



CLEATFORMER PARTS LIST

PART NO.	DESCRIPTION	NO. USED
C-8600AT	Auxiliary Top Plate	1
C-8600AB	Auxiliary Bottom Plate	1
C-8600GT	Gear Top Plate	1
C-8600GB	Gear Bottom Plate	1
C-8601	Forming Roll T&B-1	2
C-8602	Forming Roll T&B-2	2
C-8603	Forming Roll T&B'-3	2
C-8604	Forming Roll T&B-4	2
C-8605	Forming Roll T&B-5	2
C-8605	Forming Roll T&B-6	2
C-8607	Forming Roll T&B-7	2
C-8608	Forming Roll T&B-8	2
C-8609	Roll Shafts	14
C-8609A	Main Roll Shaft B4 & B5	2
C-8610	Roll Driven Gears	10
C-8610A	Roll Driven Gear B-4&B-5	2
C-8610B	Roll Driven Gear #7	4
C-8611	Main Idler Gear	1
C-8612	Main Drive Shaft	1
C-8613	Pulley Drive Shaft	1
C-8614	Hold Down Studs	4
C-8615	Locating Dowels	2
C-8616	Woodruff Keys	50
C-8617	Spacer Washers	4
C-8618	Retaining Rings	80
C-8619	Idler Gear (25 Teeth)	7
C-8620	Trust Wear Washers	4
C-8621	Plain Spacers	15
C-8623	Retaining Bolts	23
C-8624	Idler Retainer Bolts	7
C-8626	Idler Bearings	7
C-8627	Inner Race (Idler)	7
C-8628	Machine Bearings	32
C-8629	Trust Retaining Washers	7
C-8631	Drive Cleat Roll T1	1
C-8631	Drive Cleat Roll T2	1
C-8632	Drive Cleat Roll T3	1
C-8633	Drive Cleat Roll T4	1
C-8634	Drive Cleat Roll T5	1
C-8635	Drive Cleat Roll T6	1
C-8636	Drive Cleat Roll T7	1
C-8637	Drive Cleat Roll T8	1
C-8638	Drive Cleat Roll B1	1
C-8639	Drive Cleat Roll B2	1
C-8640	Drive Cleat Roll B3	1
C-8641	Drive Cleat Roll B4	1
C-8641	Drive Cleat Roll B5	1
C-8642	Drive Cleat Roll B6	1
C-8642	Drive Cleat Roll B7	1
C-8642	Drive Cleat Roll B8	1
C-8646	BX Connector	4
C-8647	Machine "V" Belt	1
C-8648	Machine Pulley	1
C-8649	Motor Sheave	1
C-8650	Motor	1
C-8651	Machine Cover	1
C-8652	Machine Stand	1
C-8652-8	Motor Guard	1
C-8653	Start Stop Switch	1
C-8654	Cord	1
C-8655	Collar	1
C-8656	Set Screw 5/16	1
C-8657	Drive Gear (44 Teeth)	1
C-8661	Carriage Bolts 1-3/4"	6
C-8662	Motor Base	2
C-8663	Hexagon Nuts 3/8"	28
C-8664	Hexagon Jam Nut 3/8"	4
C-8665	Hexagon Jam Nut (1/2")	1
C-8666	Hexagon Cap Screws	4
C-8667-1B	#1 Guide Auxiliary Side	1
C-8667-2B	#2 Guide Gear Side	1
C-8668	Main Idler Shaft	1
C-8669	Bearing (Main Idler)	2
C-8670	Retaining Ring	1
C-8673	Reduction Bearings	4
C-8675	Main Idler Washer	1
C-8676	Drive Cleat Guides (See Dwg.)	4
C-8677	Start Stop Control Cover	1
C-8678	Carriage Bolts 1-1/4"	10
C-8679	Leather Washers	4
C-8680		
C-8681	Steel Washer	16
C-8682	Flat Hd. Mach. Screws 3/8"	6
C-8683	Flat.Hd. Mach. Screws 1/2"	4
	Machine Mounts	
C-8686	2 Wire B. X.	1
C-8687	Lubrication Assembly	1
C-8687A	Lubrication Holder	1
C-8687B	Alemite Fittings	4
C-8687C	Lubrication Coupling	4
C-8687D	Lubrication Fittings	4
C-8687E	Tubing Long	2
C-8687F	Tubing Short	2
C-8688	Handy Box	1
C-8689A	Entrance Gauge Bar	2
C-8690A	"S" Cleat Exit Gauge	1
C-8690B	Drive Cleat Exit Bar	1
C-8691	"S" Cleat Riser Plate	1
C-8692	Drive Cleat Riser Plate	1
C-8693	Auxiliary Support Bar	1
ENTRANCE GAUGES AUXILIARY EQUIPMENT		
C-8695	Double Seam	
C-8695	5/16" Auxiliary Pittsburgh	
C-8696	Drive Cleat Bar	1
C-8695	Right Angle Flange	
CTC-8615-2	Gauge for Comb. 3-IN-1 Rolls	1
CTC-8515-2	Gauge for Comb. 2-IN-1 Rolls	1
EXIT GAUGES AUXILIARY EXIT EQUIPMENT		
C-8698	Double Seam	1
C-8698	5/16" Auxiliary	1
C-8698	Right Angle Flange	1
C-8698	Combination 3-IN-1 Rolls	1
C-8698	Combination 2-IN-1 Rolls	1